rapid and energetic tonic action on the heart. He gives the details of seven cases in which it was used. No bad effects were ever noted, although as much as 2.25 mg. was injected in one case in the course of three days. The average dose was 1 mg., never more than 1.25 mg., at a time. The pulse changes almost at once after the injection, approximating normal characteristics, as also the heart and lung action. One patient was in such an advanced stage of pulmonary edema that the strophanthin was injected as the last resort for an apparently moribund patient, but the injection of 1 mg. of strophanthin induced prompt relief, freeing the lungs and raising the output from 700 to 3000 c. c. in twelve hours; in another case the urine increased from 300 to 3000 c. c. in twelve hours. The results were better in the chronic cases. He affirms that his experiences seem to indicate that strophanthin is less toxic than has been hitherto supposed.

Lewin has been studying certain arrow-head poisons used in Africa and has found that the active principle of *Acocanthera Shimperi* and *A. Deflersii* has a marked action on the heart, acting in the same way and ranking with digitalis. Its advantage is that the active principle, oubain, seems to be very durable, as the amount used has been extracted from wood that has been out for years. It has the further advantage that it can be injected subcutaneously without by-effect. Hediger reports in detail a number of cases confirming the good effect of strophanthin given intravenously, one case, in particular, of chronic cardiac insufficiency which was kept under control with twenty intravenous injections of strophanthin in three months.

MULTIPLE PAPILLOMATA OF THE URETHRA.*

By LOUIS GROSS, M. D., San Francisco.

Text-books on genito-urinary diseases have little to say on papillomata of the urethra. Although this affection is not uncommon, it is infrequently recognized.

The cause is venereal infection with gonorrhea or syphilis, usually the latter. They grow rapidly under conditions of moisture. Oberlander doubts gonorrhea as a cause, Ousset, quoted by Fluss [1] claims tuberculosis as an etiological factor.

Oberlander has described a papillary overgrowth, "urethritis papillomatosa," which takes place upon the areas of infiltration found in chronic urethritis.

The *site* of predilection is the region of the external meatus, although they may occur anywhere in the urethra as far as the bladder neck. While their tendency is to extend along the inferior wall, no part of the urethral circumference is exempt.

The *diagnosis* can only be made by the endoscope, unless the papillomatous growth project from the meatus. The *symptoms* are usually trifling in character, a slight serous or sero-purulent discharge, rarely hemorrhage although Briggs [2] reports a case with bleeding after coitus. In many cases there are symptoms of stricture, such as diminution in the size of the stream (Roger), twisting and forking (Feleki), painful erections, pain with urination (Ousset, Rosenthal), difficulty in passing urine, urinary incontinence and urinary retention (Grunfeld). It has been mistaken for stricture (Briggs). In women, pain and bleeding after coitus, pruritis (Grunfeld, Dittel, Gregoire), and symptoms of cystitis, strangury (Thompson) exist. Both Balch and Grenaudet report cases with seminal losses and nocturnal emissions whilst Feleki cites cases with bloody seminal discharges. Goldenburg mentions a case of seminal retention due to a papilloma of the deep urethra. In one case Oberlander restored potency through removal of this character of growth from the prostatic urethra. As a rule the symptoms are more severe in the female and in cases of involvement of the deep urethra in the male. Undoubtedly many individuals are treated for chronic urethritis and stricture who have papillomata of the urethra.

Prognosis—Very few cases recur. In Briggs' [2] case the growths had not reappeared in 7 months. Oberlander [3] cites a case of 20 years' duration. Keyes [4] says the malady may last indefinitely, individual growths disappearing to be replaced by others. Gregoire [5] claims it reproduces itself 3 or 4 times; Tillaux says as many as 8 times. Lohnstein [6] says if the growths return, they do not recur at the same sites.

Treatment—They may be removed with curette, snare, forceps, or cautery. An effective procedure is with a pair of forceps patterned by Down of London. In my hands Dittel's forceps were useless. One is unable to accomplish very much in one sitting on account of the bleeding, therefore the work must be done at different seances. To avoid hemorrhage Oberlander suggests the following technique:—"having introduced the endoscope to the seat of the growth, two tampons are passed down, one after the other, the endoscope is partially withdrawn, and the two tampon holders are pressed against each other. The penis is stretched and the tampons, by an up and down movement, or slightly twisting motion, ought to catch and pull off the growths." I judge this method to be only useful in cases of recent origin. In my hands it was unsuccessful.

Lohnstein [6] used a double curette which was discarded as it caused considerable destruction of the urethral mucosa and hemorrhage. He then applied a single curette attachment to the Goldschmidt urethroscope, which permitted control of the cutting surface, with correspondingly better results.

Mark [7] claims his maneuver possesses the virtues of simplicity, efficacy and accuracy. He uses his aero-urethroscope, after preliminary cocainization of the urethra. "When a growth is observed projecting into the lumen of the inflated urethra, the urethroscope is directed against it and with a quick movement, under the guidance of the eye, the tube is pushed into the urethra, and the growth is scraped from its point of attachment cleanly and with no appreciable bleeding. The detached papillomata are expressed from the meatus and the urethra flushed out with normal salt solution. The urethroscope is again inserted and the former sites of attachment of the papillomata touched with trichloracetic acid."

* Paper read and case demonstrated at the meeting of the San Francisco branch of the American Urological Association, August 18th, 1910.

I find by following the same procedure with the ordinary urethroscope as does Mark with his aero-urethroscope, the results are very gratifying.

Watson [8] uses fused nitrate of silver to the base of the growth after removal. Klotz [9] suggests 50% concentrated chromic acid. Ehrmann [10] uses electrolysis entirely in small growths. He curettes the larger ones, and follows this with electrolysis. He claims there is no resulting scar formation.

The case you now see presents the following history: Apr. 6, 1907:—E. J., age 23, single, leather salesman. No history of lues. First gonorrhea in Nov., 1905, treated by both illegitimate and legitimate practitioners for 7 months when he was discharged as cured. Oct., 1906, second gonorrhea, treated by self with santal-midy only, complicated with epididymitis for which he remained in bed 2½ weeks; has morning drop, also slight discharge during the day, and weak erections for which he consulted me. I found gonococci; 1st urine cloudy with shreds; 2nd slightly cloudy with few shreds; 3rd clear; 4th clear with shreds; later, on urethroscopic examination a few inflamed follicles were found, prostate enlarged, with few gonococci. Diag.: Chronic Gonorrheal Urethritis and Prostatitis.

He discontinued treatment May 3rd on account of poor transportation facilities arising from the car-strike.

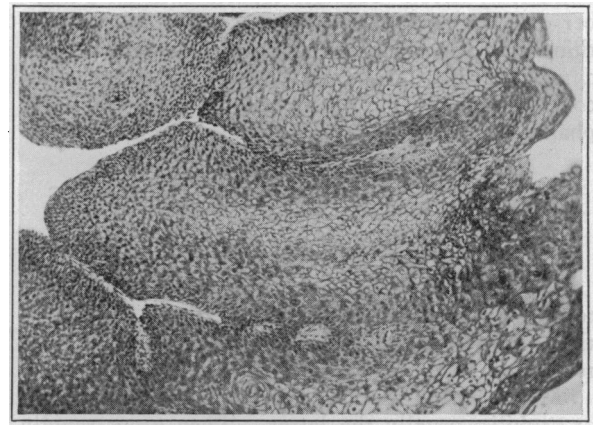
March 29th, 1910:—Patient returned with the following history: Last intercourse March 16, discharge appeared March 24, which was profuse and contained gonococci—some frequency of urination, especially diurnally—no tenesmus—slight pain—slight stinging at bladder neck—no hematuria, except once, one year ago, after coitus—no sugar, but albumen in abundance—1st, 2nd and 3rd glasses cloudy—prostate not examined at this sitting. About 2 weeks later on stripping the urethra, a few nodules were found, which I thought were infected follicles, but on attempting to empty them a small body shot forth to the meatus—no urethroscopic examination made on account of the presence of gonococci, until the middle of May, when about 60 of these growths were revealed, extending from meatus to bulb to bladder neck. They are more frequent in the first 5 inches, fewer in the bulb. They are gray in color, and vary in length, thickness and shape; occur singly and in groups; at the center of the pendulous urethra, no normal mucous membrane is discernible, the whole circumference being involved. Cystoscopic examination demonstrated the bladder to be free from these papillomata.

The technique pursued is the following:

The endoscope is introduced and the penis is placed on the stretch. The instrument is then drawn forward gradually until the tumor projects into the lumen. If the growth is very large, Mark's method is followed by thrusting the endoscope backward quickly and snipping the growth from its base. It is very important to hold the penis rigidly forward to eliminate all the folds of the urethra. Should the tumor be small, the forceps patterned by Down as mentioned above is particularly efficacious. If still smaller, the curette is then brought into use. After operating, the canal is washed with normal salt solution, saturated solution of boric acid, or oxycyanide of mercury solution 1 to 3000; the tube reintroduced and the former sites of the growths cauterized. If the patient is oversensitive novocaine in 2 to 4% solution may be used. The operation must be done in installments, on account of the hemorrhage induced. I find it necessary to interrupt the work for about 7 days.

These bodies were sent to Dr. E. C. Dickson, Assistant Professor of Pathology, Cooper Medical College, who reported as follows:

Small ovoid or rounded white smooth masses, the largest measuring about 3 by 6 by 1½ mm. Sections show projections of fine fibrous tissue, covered by a regular row of cuboid epithelium and outside of which is irregular massing of stratified squamous epithelium. Some of the epithelial cells are quite large, but there is no evidence of malignancy in the sections. It would, however, be advisable to ascertain if possible whether the base from which these papillary nodules arise is indurated. Diag.: Papilloma of Urethra.



Papilloma of the Urethra.

There is seen the thickened layer of basal cells, and the irregular papillary outgrowths from it. The fibrous tissue septa are fairly well shown, and the irregularity of the cell outline, can be made out.

In conclusion, I would advise a thorough examination of every case of Chronic Urethritis for papilloma, for undoubtedly many individuals with chronic discharges are possessors of these growths.

Bibliography.

1. Fluss, K., Weiner klin. Woch., Oct. 3, 1907, p. 1225.
2. Briggs, Boston Med. and Surg. Jour., Oct. 24, 1889.
3. Oberlander, Sajous' Annual, 1888, ii, 212.
4. Keyes, Genito-Urinary Diseases, 2nd Edition, p. 78.
5. Gregoire, R., Ann. d. mal. d. org. genito-urin. Par., 1904; XXII, 321-345.
6. Lohnstein, H., Zeitschrift für Urologie, 1909, 1st part, p. 12.
7. Mark, Amer. Jour. Derm. & G-U. Dis., Jan., 1908, p. 22.
8. Watson, Genito-Urinary Diseases, Vol. 1, p. 82.
9. Klotz, N. Y. Med. Jour., Jan. 26, 1895.
10. Ehrmann, Weiner Med. Presse, 1895, No. 8.